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Does soluble CD26 predict outcome of acute hepatitis E viral infection?

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Background: Even without treatment, most of acute hepatitis E virus (HEV) infected patients resolve HEV but sometimes the disease leads to acute liver failure, chronic infection, or extrahepatic symptoms. The mechanisms of HEV pathogenesis appear to be substantially immune mediated. However, the immune responses to HEV are not precisely identified. The aim of this study was evaluation of Th1/Th2 ratio by determining serum soluble markers from Th1 and Th2 cells in acute HEV infected patients.

Material/methods: This case control study included 35 acute HEV infected patients and 35 age and sex matched anti-HEV negative healthy controls. The serum levels of IFN-γ, IL-4, soluble CD26 (sCD26) and sCD30 were determined by enzyme-linked immunosorbent assay.

Results: The results showed a significant difference in IFN-γ and sCD26 ($P<0.0001$ and $P=0.001$) but not IL-4 and sCD30 ($P=0.354$ and $P=0.159$) between acute HEV patients and controls, respectively. There was only a positive direct correlation between serum levels of sCD26 and IFN-γ in acute HEV patients ($r=0.64$, $P=0.001$). In addition, the ratio of sCD26/sCD30 in acute HEV group was more than two fold higher than in HEV negative controls.

Conclusions: Acute HEV infection shows a pattern of Th1-type immune response and a direct significant positive correlation between the serum level of sCD26 and IFN-γ in acute HEV infected patients, suggesting that the trend of sCD26 levels is a valuable marker for predicting hepatic inflammation in hepatitis E.